

Appl. No. 10/710,370
Amdt. dated January 02, 2006
Reply to Office action of October 05, 2005

REMARKS/ARGUMENTS

1. Rejections of claims 1-13 under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of JP359012715A and AAPA:

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Claim 1 has been amended to overcome this rejection. Specifically, the limitations “adding an alkali medicament into the filter to adjust a water solution in the filter to be alkaline” and “performing a sterilizing process by adding sodium hypochlorite (NaOCl) into the filter when the water
10 solution in the filter becomes neutral” have been added to claim 1. These limitations find support in the specification in [0022] and in original claim 5 for instance, and no new matter is entered.

In accordance with the present application, the alkali medicament is
15 added into the filter to turn the water solution alkaline, so that the flocs will be broken. The filter is then reversely rinsed to expel the flocs from the filter, and to turn the water solution in the filter neutral. Subsequently, a sterilizing process is performed by adding sodium hypochlorite (NaOCl) into the filter when the water solution in the filter becomes neutral.
20 Sodium hypochlorite is added into the filter after the water solution is neutral for the following reasons. First, the sterilizing effect of sodium hypochlorite is strongly relative to pH value. Specifically, the more alkaline the solution is, the more sterilizing sodium hypochlorite becomes. Therefore, the sterilizing process is performed after or together with the
25 reverse rinse process. Second, the alkali medicament can remove particles such as organic compounds. If sodium hypochlorite is added into the filter with the alkali medicament which means the particles are not removed yet, toxic substance such as tri halogen methanes (THMs) may occurs.

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Regarding the cited Japanese art (JP359012715A), Nakagawa teaches washing the filter basin by adding an alkali agent e.g. caustic soda (sodium hydroxide) and an oxidizing agent e.g. sodium hypochlorite in the filter
5 basin to release mud balls form the filter medium. Caustic soda and sodium hypochlorite are added at the same time and last in the filter basin for 24 hours. In comparison with the present application, Nakagawa adds sodium hydroxide and sodium hypochlorite simultaneously, which means sodium hypochlorite is added to an alkaline solution. Since the sterilizing effect of
10 sodium hypochlorite strongly depends on pH value, Nakagawa's teaching has poor sterilizing effect in comparison with the present application.

The method of claim 1 adds alkali medicament and sodium hypochlorite in different steps, while Nakagawa's teaching does it at the
15 same time. Sodium hypochlorite is added to a neutral solution, and this makes sodium hypochlorite have a good sterilizing effect. Since Nakagawa, AAPA or JP52143562 fails to teach adding sodium hypochlorite when the solution is neutral, claim 1 should be allowed. Claims 2 and 6 depend on claim 1, and should be allowed if claim 1 is found allowable. Claims 3-5
20 are cancelled. Reconsideration of claims 1-2 and 6 is requested.

Claim 7 has been amended to overcome this rejection. Specifically, the limitations "transforming the aluminum ions in the filter into complex ions carrying negative charges by adjusting the water solution in the filter to be
25 alkaline" and "performing a sterilizing process when the water solution in the filters turns neutral" have been added to claim 7. These limitations find support in the specification in [0022] and in original claim 5 for instance, and no new matter is entered.

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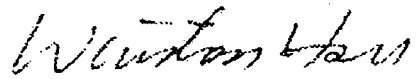
Similar to the argument made for claim 1, claim 7 also includes the limitation of performing the sterilizing process when the water solution in the filter is neutral. The sequence of performing the sterilizing step is
5 distinct from AAPA, JP59012715 or JP52143562, and achieves an unexpected and superior sterilizing effect. Thus, claim 7 should be allowed. Claims 8-10 and 12 depend on claim 7, and should be allowed if claim 7 is found allowable. Claims 11 and 13 are cancelled. Reconsideration of claims 7-10 and 12 is requested.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

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Date: 01/02/2006

Winston Hsu, Patent Agent No. 41,526

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

20 Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)